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HHE UNITED SIMIES OF ANTERIOR

TO ALL TO WHOM THESE PRESENTS; SHALL COME: Soils and Crops Department New Jersey Agricultural Experiment Station Calhereas, there has been presented to the

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(8) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLI-CANT(S) FOR THE TERM OF Seventeen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EX-UDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, AMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT TY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. United States seed of this variety (1) shall be sold by variety name only as

OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CHEWINGS FESCUE

'Banner'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Mant Variety Protection Office to be affixed at the City of Washington day of September 28th the year of our Lord one thousand nine hundred and Seventy-seven

Allost: Plant Variety Protection Office Grain Division

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE GRAIN DIVISION HYATTSVILLE, MARYLAND 20782

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.				•
1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME			L USE ONLY
'Banner' RU-45C)	Chewings-typ	pe fescue	PV NUMBER 750	00043
3. GENUS AND SPECIES NAME	4. FAMILY NAME (Botanical) FILING DATE			TIME 2100
<u>Festuca</u> <u>rubra</u> L. subsp. commutata Guad.	Gramineae	e e	(2.17.14)	BALANCE DUE
	5. DATE OF DETERM	IINATION	\$250,00	s 12-17-74
	January 197	70	\$250,00	s II - 10 - 76
6. NAME OF APPLICANT(S)		nd No. or R.F.D. No., C	\$ 250 100	8. TELEPHONE AREA
Robert W. Duell	1	R.D.1-401,		CODE AND NUMBER
NE TERRE ROPS DEPORTMENT		-	J. 08540	(201)932-9872
Richard M. Schmit	1483 Huron	Rd.,North B	runswick,	
EXPERINDENT STATION		N.,	7. 08902	(201) 932-9458
9. IF THE NAMED APPLICANT IS NOT A PER ORGANIZATION: (Corporation, partnership, a	SON, FORM OF	10. STATE OF INCOR	PORATION	11. DATE OF INCOR- PORATION
Rutgers University		New Jerse	Y	
12. Name and mailing address of applica	int representative(s), if any, to serve i	n this application an	d receive all papers:
). Box 231			
•	nan Hall			
-	c College		•	•
the control of the co	Brunswick, N	1. J. 08903		
		1		
138. Exhibit B, Botanical Description 130. Exhibit C, Objective Description Description 130. Exhibit B, Description 130.	iption of the Variety	. '		
I3D. Exhibit D, Data Indicative	of Novelty			
X 13E. Exhibit E, Statement of the	Basis of Applicant	's Ownership		
14A. Does the applicant(s) specify that (See Section 83(a), (If "Yes," ans	seed of this variety wer 14B and 14C be		name only as a clas. ⊠YES NO	s of certified seed?
148-Does the applicant(s) specify that		,	4B, how many gener	ations of production
limited as to number of generations		beyond breede		
	X YES NO	X FOUNDATION	-	CERTIFIED
The applicant declares that a viable sa ance of a certificate and will be repleted	mple of basic seed ished periodically	of this variety will in accordance with	be deposited upon re such regulations as	equest before issu- may be applicable.
The undersigned applicants) of this				
uniform, and stable as required in Sec Plant Variety Protection Act.	ction 41 and is entit	tled to protection us	nder the provisions o	Section 42 of the
Applicant is informed that false repre	sentation herein car	n jeonardize protect	vion and secult in per	na lillas
How 1 74	·	Pobert	/1) \) 110/	
(DATE)	-	(sic	NATURE OF APPLICAN	/T)
			/	
(DATE)	-	(SIC	NATURE OF APPLICAN	(T) 0000
				``` 00001 -

#### Exhibit A - Origin and Breeding History of Banner

Banner is a Chewings-type fescue originally produced in New Jersey in 1970. The source material consisted of clones selected from turf areas of the northeastern United States and the transitional zone to the south. Collected material was subjected to evaluation and selection under close, frequent mowing. Forty-five Chewings-types of similar maturity were selected based on phenotype and topcross performance to produce Banner.

Seed of Banner was increased in Oregon and tested in turf trials throughout the United States, in Canada and in Europe. Data from these variety trials indicate that the variety is distinct and has performed well.

Parental clones have been retained by the applicants to insure that Banner will remain uniform and stable for future commercial production. Syn 1 and syn 2 seed of Banner has produced seed of comparable quality and uniformity.

#### Exhibit B - Botanical Description of Banner

Banner (2n = 6x = 42) is a Chewings-type (or non rhizomatous) fescue. The variety is medium dark green and is tolerant of close mowing (3/4 inch, twice weekly). Banner is moderately resistant to leaf blotch.

Seventy plants of Banner were grown for botanical description at the Soils and Crops Research Farm at Adelphia, New Jersey in a spaced plant nursery. Plants were grown from seed in peat pots in three foot cultivated rows on two foot centers. Plants remained small in the spring of 1973 and measurements for taxonomic description was delayed until plants had developed mature characteristics. Based on these measurements Banner may be described as follows:

The culms of Banner are typically semi erect, averaging 78.2 cm in height (s = 3.6, C.V. = 5%) with short basal leaves and two visible stem nodes. Leaves are open sheathed and medium textured. Panicles are compact, averaging 11 cm (s = 1.5) with an average of 0.11 g seed (s = 0.0314 g) seed per panicle. Spikelets are oblong and 5-7 flowered. Lemmas range in length from 5-7 mm ( $\overline{x}$  = 6.6). Length of the palea is 4-6 mm ( $\overline{x}$  = 4.9). Length of the rachis is 0.7-1.3 mm ( $\overline{x}$  = 1.0 mm). Length of the lemma awns are 1.0 to 2.5 mm long ( $\overline{x}$  = 1.9 mm).

Under turf conditions of close, twice weekly mowing at 3/4 inch, at New Brunswick, Banner has five prominent epidermal ridges on the third (fully expanded) leaves which range in width from 0.8 to 1.2 mm.

* INTERMEDIATE, letter s/18/77, 9914.5/26/17

# U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE GRAIN DIVISION HYATTSVILLE, MARYLAND 20782 OBJECTIVE DESCRIPTION OF VARIETY FESCUE (Festuca spp.)

NAME OF APPLICANT(S)	VARIETY NAME OR TEMPORARY DESIGNATION
Robert W. Duell	Banner
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)	FOR OFFICIAL USE ONLY
P. O Box 231, Dept. of Soils & Crops	PVPO NUMBER
Cook College-Rutgers Univ.New Brunswick	7500043
Place the appropriate number that describes the varietal character of this variety in the boxes below number is either 99 or less or 9 or less. Characteristics described, including numerical measurement Ranges may be given also. Measured data should be for SPACED PLANTS. Royal Horticultural Scribes Munsell  Describes	s, should represent those that are typical for the variety.
All questions need not be answered, however, completeness should be striven for in order to establi	sh the most adequate Variety Identification.
1. SPECIES: (With comparison varieties for use below - use varieties within species of application	
1 = F. <u>ARUNDINACEA</u> (TALL) 11 = ALTA 12 = FAWN 13 = GOAR 1 2 = F. <u>PRATENSIS</u> (MEADOW) 21 = ENSIGN 22 = TRADER	4 = KENTUCKY 31
3= F. RUBRA SSP. COMMUTATA (CHEWINGS) 31 = CASCADE 32 = HIGHLIGHT 4= F. RUBRA SSP. RUBRA (RED) 41 = BOREAL 42 = PENNLAWN 43 = DAWS	33 = JAMESTOWN SON
5 = F. <u>OVINA</u> VAR. <u>OVINA</u> (SHEEP) 6 = <u>F</u> . <u>LONGIFOLIA</u> (HARD) 61 = DURAR 62 = BILJART (C-26) 63 = SCAL	DIS
7 = OTHER (SPECIFY) F	<del></del>
2. CYTOLOGY	
	•
4 2 2n CHROMOSOME NUMBER	·
3. ADAPTATION: (O = Not Tested; 1 = Not Adapted; 2 = Adaptad)	
2 NORTHEAST 2 SOUTHEAST 2 NORTH CENTRAL 2	PACIFIC N.W. 2 OTHER Europe
4. MATURITY: (50% Headed) Give Test Area Adelphia, N. J	
0 2 DAYS EARLIER THAN	
MATURITY SAME AS	/ARIETY
0 3 DAYS LATER THAN	
5. PLANT HEIGHT: (At maturity to top of panicle)	
7 8 2 mm HEIGHT	
2 3 mm SHORTER THAN	
HEIGHT SAME AS	<b>VARIETY</b>
4 2 mm TALLER THAN	
6. GROWTH HABIT (Mature)	
1 = ERECT (KENTUCKY 31) 2 = SEMI-ERECT (HIGHLIGHT) 3 = PROSTR	ATE
7. RHIZOMES	
0 0 mm LENGTH 0 0 mm WIDTH	·
0 0 = ABSENT 1 = WEAKLY CREEPING (DAWSON) 2 = STRONGLY CREEPIN	IG (BOREAL) 3 = OTHER
8. LEAF BLADE:	
1 = LIGHT GREEN (GOLFROOD) 2 = MODERATELY LIGHT GREEN (	HIGHLIGHT) 3 = MEDIUM GREEN (JAMESTOWN, KENTUCKY 31)
4 = DARK GREEN (CASCADE) 5 = BLUEGREEN 6 = GRAYGREE	7 = OTHER(SPECIFY)

#### Exhibit D - Novelty of the variety 'Banner'

Banner most closely resembles the variety, 'Jamestown' except it has at times displayed superior performance under close and frequent mowing compared to Jamestown, particularly after several years of evaluation and has higher seed yields in commercial production in the Willamette Valley. In addition, Banner is characterized by a slightly darker turf color.

Banner differed from Jamestown in that its seedheads were not suppressed to the same extent as those of Jamestown when treated with several chemical growth retardants (See Exhibit C-18a - additional characteristics).

FESCUE - 3

#### INSTRUCTIONS

Color: Nickerson's or any recognized color fan may be used to determine plant colors of the described variety.

Color determinations were made on October 31, 1974 under uniform cloud cover. Turf had been maintained at 3/4 inch cut with fertilization at approximately 1  $1b./1000^2$  in three applications per year.

Banner may be characterized as to color on the Munsell color scale as 2.5 G 4.4. This is in contrast to Jamestown fescue which has its color described as 10 GY 4.4 on the same scale.

#### 18a. Additional Characteristics - Exhibit C

Several grasses were treated in the spring of 1975 with various growth retardants. Banner differed significantly from Jamestown in that its seedheads were not suppressed to the extent of those of 'Jamestown' by several chemical agents. See table below.

Percent seedhead control of Banner vs. Jamestown by three growth retardants.

Growth retardant	<u>Rate</u>	Banner	Jamestown
Vel. 3793	¼# a.i./A	5	28
Hoe. 22870	4# a.i./A	1	28
Hoe. 23408	1½# a.i.∕A	3	22
	Means*	3	26

^{*}Difference between means is significant at the 1% level of probability.

Table 2. Seedhead counts of Banner, Jamestown and Highlight at Adelphia.

	Seedheads/d cm ² June 19,1974
Banner	2.0
Jamestown	0.6
Highlight	3.9

Table 3. Tear strength of sod of fescue varieties.

Variety	<u>Pou</u> nds
K-31 tall fescue	82.0
Pennlawn	118.9
Fortress	116.9
C-26	129.9
Jamestown	121.6
Banner	160.2
LSD @ 5% = 29.4	
" $1\% = 40.6$	

### 75-43

## Exhibit E - Statement of the Applicant's Ownership

The applicant, the Soils and Crops Department, New Jersey
Agricultural Experiment Station, is the sole owner of 'Banner'.
Furthermore, the original clones and breeders seed is produced
as required by the applicant to insure the stability and
uniformity of 'Banner'.

This agreement was made and entered into by and between New Jersey Agricultural Experiment Station, Rutgers University, the State University of New Jersey, New Brunswick, New Jersey, 08903; Robert W. Duell, Sunset Avenue, R. D. 1-401, Princeton, New Jersey, 08540; Cyril R. Funk, Jr., 4 Delaware Drive, East Brunswick, New Jersey 08816; and Richard M. Schmit, 1483 Huron Road, North Brunswick, New Jersey, 08902.

WHEREAS, the above named individuals, being employed by
New Jersey Agricultural Experiment Station, have together developed a Chewings fescue variety identified with the experimental
number RU45-C, and a spreading fescue variety identified with the
experimental number RU6-S, and have full ownership of these
varieties under the provisions of the patent policy of the New
Jersey Agricultural Experiment Station and Rutgers University,

NOW THEREFORE, IT IS AGREED AS FOLLOWS:

The above named individuals do hereby donate the above varieties to the Soils and Crops Department of the New Jersey Agricultural Experiment Station, which donation is hereby acknowledged. For purposes of crediting contributions of individuals we agree to the following ratios:

Robert W. Duell, 60; Cyril R. Funk, Jr., 5; and Richard M. Schmit, 35.

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#### RUTGERS UNIVERSITY

_ B	y Conta Con Mace be-
<u> </u>	Title, Director, N.J. Ag. Expt. Sta.
	Title, Chairman, Soils & Crops Dept.
	Robert W. Duell
	Cyril R. Funk, Jr. Cyril R. L.
	Richard M. Schmit G. G. G.

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE GRAIN DIVISION HYATTSVILLE, MARYLAND 20782

OBJECTIVE DESCRIPTION OF VARIETY FESCUE
(Festuca spp.)

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Place the appropriate number that describes the varietal character of this variety in the boxes below	
number is either 99 or less or 9 or less. Characteristics described, including numerical measurement	- · · · · · · · · · · · · · · · · · · ·
Ranges may be given also. Measured data should be for SPACED PLANTS. Royal Horticultural So Munsell  Describe 1	''' Adalahia NTT
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5 = F. OVINA VAR. OVINA (SHEEP) 6 = F. LONGIFOLIA (HARD) 61 = DURAR 62 = BILJART (C-26) 63 = SCAL	DIS
7 = OTHER (SPECIFY) F	<del></del>
- AVEN 00V	
2. CYTOLOGY	
4 2 2n CHROMOSOME NUMBER	
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4. MATURITY: (50% Headed) Give Test Area Adelphia, N. J	10011 17.
	<del></del>
0 2 DAYS EARLIER THAN	
<del></del>	
MATURITY SAME AS	/ARIETY
[	
0 3 DAYS LATER THAN	
5. PLANT HEIGHT: (At maturity to top of panicle)	
<del></del>	
7 8 2 mm HEIGHT	·
2 3 mm SHORTER THAN	
<u> </u>	
COMPARISON	VARIETY
HEIGHT SAME AS	
4 2 mm TALLER THAN	
6. GROWTH HABIT (Mature)	
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7. RHIZOMES	
0 0 mm LENGTH 0 0 mm WIDTH	
0 0 = ABSENT 1 = WEAKLY CREEPING (DAWSON) 2 = STRONGLY CREEPIN	NG (BOREAL) 3 = OTHER
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4 = DARK GREEN (CASCADE) 5 = BLUEGREEN 6 = GRAYGREE	N 7 = OTHER(SPECIFY)

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FORM GR-470-37 (PAGE 2)	PV 7500043 BANNER
8. LEAF BLADE:	
0 ANTHOCYANIN: 0 = ABSENT 1 = PRESENT 0 HAIRS (B	1 = SMOOTH ASAL): 0 = ABSENT 1 = PRESENT 2 MARGINS: 2 = SEMI-ROUGH 3 = ROUGH
mm LENGTH (FIRST LEAF BELOW FLAG LEAF)	1 2 mm WIDTH
mm SHORTER THAN	0 2 mm NARROWER THAN . 3 3
LENGTH SAME AS	COMPARISON VARIETY
mm LONGER THAN	mm WIDER THAN
9. LEAF SHEATH (Plant Base):	
2 COLOR: 1 = WHITE (HIGHLIGHT) 2 = RED	AURICLE HAIRINESS: 0 = ABSENT 1 = PRESENT
10. PANICLE (Mature plant)	
6 3 2 NUMBER OF PANICLES PER PLANT (FIRST YEAR	OF PRODUCTION FALL OF SPRING PLANTING SPECIFY Fall
1 1 0 mm LENGTH	0 0 9 GRAMS OF SEED PER PANICLE
1 6 mm SHORTER THAN 3 3	GRAMS LESS SEED THAN
LENGTH SAME AS COMPAR	
0 4 mm LONGER THAN 3 2	GRAMS MORE SEED THAN
3 SHAPE: 1 = NARROW-TAPERING 2 = EGG SHAPE	3 = OBLONG 4 = OTHER (SPECIFY)
TYPE: 1 = OPEN 2 = INTERMEDIATE 3 = COMP	ACT
HABIT: 1 = ERECT 2 = NODDING	
BRANCHES: 1 = SMOOTH 2 = ROUGH	
4 COLOR (At 50% flowering): 1 = YELLOWISH GREEN 2 = 0 6 = OTHER (SPECIFY)	GREEN 3 = BLUISH GREEN 4 = PURPLISH 5 = REDDISH
11. PALEA:  1 HAIRS (ON KEELS): 0 = ABSENT 1 = SHORT (OLDS)	0 - 1 0 N C ( 0 4 N V C 0 )
12. LEMMA:	2 = LONG (RAINIER)
1 HAIRS: 0 = ABSENT 1 = PRESENT	1 TEXTURE: 1 = SMOOTH 2 = ROUGH
4 9 mm LEMMA LENGTH	TEXTURE: 1 = SMOOTH 2 = ROUGH  9 4 mm LEMMA WIDTH
mm SHORTER THAN	mm NARROWER THAN
LENGTH SAME AS COMPARIS	SON WIDTH SAME AS COMPARISON VARIETY
mm LONGER THAN	mm WIDER THAN
AWNS: 0 = ABSENT 1 = PRESENT	
1-9 Little 5/18/77 9917	00005
V	· · · · · · · · · · · · · · · · · · ·

ORM GR-470-37 (PAGE 3)				PVT	5000	BANNE	12
12, LEMMA:						* " · · · · · · · · · · · · · · · · · ·	
mm SHORTE	R THAN						
LENGTH SAM	ME AS		OMPARIS ARIETY	ON			
mm LONGER	THAN				·		
13, SEED:							
4 9 mm LENG	тн			9 4 mm WIDTH			
mm \$HOR	TER THAN	$\Box$ )	Ī	mm, NARROWE	R THAN	二)	-
LENGTH :	SAME AS		MPARISON RIETY	WIDTH SAME A		COMPARISO	N
mm LONG	BERTHAN			mm WIDER THA	AN		<del></del> .
0 9 1 4 GRA	MS PER 1000 SEED						
GRAI	MS LESS THAN	$\Box$					
WEIG	HT SAME AS	1 1 /	MPARISON RIETY				
GRA	MS MORE THAN .						
14. DISEASE, INSECT,	AND NEMATODE (O =	Not Tested, 1	l = Suscepti	ble, 2 = Resistant):		<del>-</del> *,	
2 HELMINTHOSPOR	IUM VAGANS	0 н. s	OROKINI	4NUW	0 н. отс	TYOIDES	
0 RHIZOCTONIA SO	LANI	1 ER	YSIPHE GR	AMINIS	0 <u>изті</u>	AGO STRIIFORMIS	<u>s</u>
1 FUSARIUM NIVAL	<u>.E</u>	<u> </u>	ROSEUM		<u>0</u> <u>түрн</u>	ULA <u>IOTANA</u>	
0 PUCCINIA GRAMII	<u>vis</u>	0 <u>P. s</u>	TRIIFORM	<u>iis</u>		AE-NEMORALIS	
0 P. CORONATA			THIUM UL	TIMUM		ICIUM FUSCIFORM	_
1 SCLEROTINIA HO	MEOCARPA	0 INS	ECT		_ O NEMA	TODE	
OTHER		ОТІ	HER		ОТНЕ	R	
indicate degree of re	R VARIETIES THAT MO semblance (D.R.) by place ety is less than comparison	ing in the col	Y RESEMB lumn marke	LE THE APPLICATION V d, D.R., one of the followi 2 = Same as	ARIETY. For the ng numbers:	following characteris	tics
· ·	er, greater, darker, more d	=	nt, etc.				<b></b>
CHARACTER	VARIET	<u>′</u>	D.B.	CHARACTER	VARI		D.R.
RHIZOME LENGTH	Jamestown "	· ·	2	GROWTH HABIT	Jamesto "	wn	2
LEAF WIDTH	''		2 2	LEAF COLOR	- "		2 2
PANICLE COLOR		••	3	PANICLE SHAPE	11		<del></del>
WINTER COLOR	)II		$\frac{3}{2}$	COLD INJURY	1 11		2
SHADE TOLERANCE			<del> </del>	HEAT	<del></del>		+-

^{*}Specify each disease evaluated.

#### 6. ADDITIONAL DESCRIPTION: (Use additional sheets as required)

Describe all characteristics that cannot be adequately described in the form above. Comparative varieties should be used as may be appropriate, such as for disease. Append all comparative trial and evaluation data, including measured characters, environmental, and disease tests.

See previously submitted separate pages for Exhibit C.

